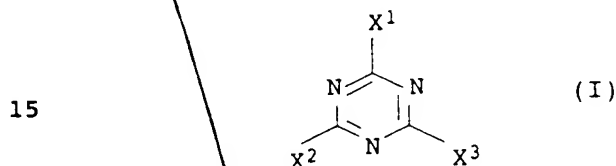


We claim:

- 1 A method of using modified melamine resin fibers obtainable
 5 by condensational mixture comprising
- (A) from 90 to 99.9 mol% of a mixture comprising
- (a) from 30 to 99.9 mol% of melamine and
- (b) from 1.0 to 70 mol% of a substituted melamine of the
 10 general formula I



20 where X^1 , X^2 and X^3 are each selected from $-NH_2$, $-NHR^1$ and $-NR^1R^2$, subject to the proviso that X^1 , X^2 and X^3 are not all $-NH_2$, and R^1 and R^2 are independently selected from hydroxy- C_2 - C_{20} -alkyl, hydroxy- C_2 - C_4 -alkyl-(oxa- C_2 - C_4 -alkyl) $_n$, where n is from 1 to 5, and amino- C_2 - C_{12} -alkyl,
 25 or mixtures of melamines of formula I, and

- (B) from 0.1 to 10 mol%, based on (A) and (B), of a compound
 selected from phenols which are unsubstituted or
 substituted by radicals selected from C_1 - C_9 -alkyl and
 30 hydroxyl, C_1 - C_4 -alkanes substituted by two or three phenol groups, di(hydroxyphenyl) sulfones and mixtures thereof

35 with formaldehyde or formaldehyde-supplying compounds in a molar ratio of melamines to formaldehyde within the range from 1:1.15 to 1:4.5, as and in thermal and/or acoustic insulating material.

2. A method as claimed in claim 1 for use together with
 40 polyalkylene terephthalate fibers.

3. An insulating material comprising
- a) from 5 to 95 % by weight of melamine resin fibers, and
 45 b) from 5 to 95 % by weight of polyalkylene terephthalate fibers.

4. An insulating material as claimed in claim 3, further comprising c) up to 30% by weight of further fibers and/or d) up to 20% by weight of additives.

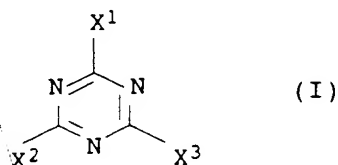
5 5. An insulating material as claimed in either of the preceding claims, wherein the melamine resin fibers are modified and obtainable by condensational mixture comprising

(A) from 90 to 99.9 mol% of a mixture comprising

10 (a) from 30 to 99.9 mol% of melamine and

(b) from 1.0 to 70 mol% of a substituted melamine of the general formula I

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where X^1 , X^2 and X^3 are each selected from $-NH_2$, $-NHR^1$ and $-NR^1R^2$, subject to the proviso that X^1 , X^2 and X^3 are not all $-NH_2$, and R^1 and R^2 are independently selected from hydroxy- C_2 - C_{20} -alkyl, hydroxy- C_2 - C_4 -alkyl-(oxa- C_2 - C_4 -alkyl) $_n$, where n is from 1 to 5, and amino- C_2 - C_{12} -alkyl, or mixtures of melamines of formula I, and

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(B) from 0.1 to 10 mol%, based on (A) and (B), of a compound selected from phenols which are unsubstituted or substituted by radicals selected from C_1 - C_9 -alkyl and hydroxyl, C_1 - C_4 -alkanes substituted by two or three phenol groups, di(hydroxyphenyl) sulfones and mixtures thereof,

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with formaldehyde or formaldehyde-supplying compounds in a molar ratio of melamines to formaldehyde within the range from 1:1.15 to 1:4.5.

40 6. An insulating material as claimed in any of preceding claims, wherein the polyalkylene terephthalate fibers b) are selected from polyethylene terephthalate fibers, polybutylene terephthalate fibers and mixtures thereof.

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7. An insulating material as claimed in claim 6, wherein the polyethylene terephthalate fibers b) are bicomponent fibers having a core/sheath construction comprising a polyester core and a copolyester sheath.
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8. An insulating material as claimed in claim 7, wherein the melting temperature of the core of the bicomponent fibers b) is within the range from 200 to 300°C, preferably within the range from 230 to 280°C, and the melting temperature of the sheath is within the range from 80 to 150°C, preferably within the range from 100 to 130°C.
- 10
9. An insulating material as claimed in either of claims 7 and 8, wherein the individual fiber linear density of the bicomponent fibers b) is within the range from 1 to 20 dtex, preferably within the range from 2 to 15 dtex.
- 15
10. A process for producing an insulating material as claimed in any of the preceding claims, which comprises
- 20
- i) the components a), b) and optionally c) and/or d), optionally after a pretreatment, being mixed, optionally carded and laid down to form a mat,
- ii) the mat being heated, and
- 25
- iii) the tempered mat being optionally cut to size and/or coated.
11. A process as claimed in claim 10, wherein component b) is a core-sheath bicomponent fiber as set forth in any of claims 7 to 9 and the temperature in step ii) is higher than the melting temperature of the sheath and lower than the melting temperature of the core.
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